

We Claim:

1. A realtime electronic communications system, comprising:
  - an instant-messaging server;
  - a first computer comprising a first instant-messaging client, said first client adapted for logging said first computer in to said server, and communicating to said server connecting information of said first computer;
  - a second computer comprising a second instant-messaging client, said second client adapted for logging said second computer in to said server and communicating to said server connecting information of said second computer;
  - an external device operatively connected to said second computer; and
  - means utilizing respective connecting information of said first and second computers for effecting realtime peer-to-peer communication between said first and second computers, whereby said first computer interfaces with said external device in realtime.
2. A realtime electronic communications system according to claim 1, wherein said connecting information comprises an IP address and port number for each of said first and second computers.
3. A realtime electronic communications system according to claim 1, wherein said first computer is a PC comprising a graphical user interface.
4. A realtime electronic communications system according to claim 3, and comprising a display monitor connected to said PC.

5. A realtime electronic communications system according to claim 4, and comprising a status icon appearing in an open window of said display monitor, and indicating a status of said external device in realtime.

6. A realtime electronic communications system according to claim 4, and comprising a text message appearing in an open window of said display monitor, and indicating a status of said external device in realtime.

7. A realtime electronic communications system according to claim 1, and comprising means for automatically communicating a status of said external device to said first computer upon a predetermined event identified by said second computer.

8. A realtime electronic communications system according to claim 7, wherein the predetermined event identified by said second computer is selected from a group consisting of a change in digital inputs, a change in analog values, and arrival of a serial data stream.

9. A realtime electronic communications system according to claim 1, and comprising means for effecting an automated response in a second external device connected to said first computer upon a predetermined event identified by said second computer, said second computer communicating occurrence of the event to said first computer in realtime.

10. A realtime electronic communications system according to claim 9, wherein the predetermined event identified by said second computer is selected from a group consisting of a change in digital inputs, a change in analog values, and arrival of a serial data stream.

11. A realtime electronic communications system according to claim 9, wherein said automated response comprises means for actuating a switch operatively connected to said second external device.

12. A realtime electronic communications system according to claim 1, wherein said external device is selected from a group consisting of a PC, programmable logic controller (PLC), remote terminal unit, data terminal, power line communications source, data logger, measurement gauge, and switching device.

13. A realtime electronic communications system according to claim 1, and comprising a wireless modem operatively connected to at one of said first and second computers.

14. A realtime electronic communications system according to claim 1, wherein said second computer comprises an RS-232 port.

15. A realtime electronic communications system according to claim 1, wherein said second computer comprises an RS-485 port.

16. A realtime electronic communications system according to claim 1, wherein said instant-messaging server comprises means for providing a multi-dimensional communications environment.

17. A realtime electronic communications system according to claim 16, wherein said server communicates via a TCP/IP network.

18. A realtime electronic communications system according to claim 1, wherein said first computer comprises a node on a local area network.

19. A realtime electronic communications system according to claim 1, wherein said first computer comprises a node on a wide area network.

20. A realtime electronic communications system according to claim 1, wherein said first computer comprises a mobile node on a wireless network.

21. A realtime electronic communications system according to claim 20, wherein said mobile node is selected from a group consisting of a cellular telephone, a laptop computer, a handheld computer, and a personal digital assistant (PDA).

22. A computer adapted for incorporating into a realtime electronics communication system, said computer comprising:

an instant-messaging client adapted for logging said computer in to an instant-

messaging server, and communicating to the instant-messaging server connecting information of said computer;

a communications interface selected from a group consisting of RS-232, RS-422, RS-485, ethernet, 802.11, Bluetooth, USB, CANbus, and Fieldbus;

a hardware interface selected from a group consisting of a digital input, an analog input, and a relay output; and

said communications interface and said hardware interface adapted for connecting an external device to said computer, such that the instant-messaging server establishes realtime interaction between the external device and a second computer comprising an instant-messaging client logged in to the instant-messaging server.

23. A method for realtime electronic communication, said method comprising the steps of:

operatively connecting an external device to a first computer; and

effecting peer-to-peer instant-messaging communication between the first computer and a remote second computer, whereby the second computer interfaces with the external device in realtime.